**Chapter 14 Algebraic Thinking: Generalizations, Patterns, and Functions (pg. 266-283)**

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**Representative TN State Curriculum Standards**

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| ***Kindergarten -***  **GLE:**  0006.3.1 Identify, duplicate and extend simple number patterns and sequential and growing patterns.  0006.3.2 Recognize attributes (such as color, shape, size) and patterns (such as repeated pairs, bilateral symmetry).  **Checks for Understanding:**  0006.3.1 Use a variety of manipulatives (such as connecting cubes, number cards, shapes) to create patterns.  0006.3.2 Name, copy, and extend patterns.  0006.3.4 Sort, order and classify objects by attribute and identify objects that do not belong in a particular group.  ***2nd Grade -***  **GLE:**  0206.3.1 Develop pattern recognition.  **Checks for Understanding:**  0206.3.1 Given rules, complete tables to reveal both arithmetic and geometric patterns.  0206.3.2 Given a description, extend or find a missing term in a pattern or sequence.  0206.3.3 Record and study patterns in lists of numbers created by repeated addition or subtraction.  0206.3.4 Generalized the patterns resulting from the addition, subtraction and multiplication of combinations of odd and even numbers.  s | |
| C:\Users\Margi\Desktop\2903978140484795893536Pic.jpg  C:\Users\Margi\Desktop\114812DD.jpg | **Time:** Approximately 8 min.  **Need:**   * If you were an ODD NUMBER by Marcie Aboff * Handout * and pencil   **Activity:**   * Read *If you were an ODD NUMBER* by Marcie Aboff. * Ask students to answer the questions on their handout. * Call on one or two students and ask them if their answers are odd or even. * Allow the students to talk among themselves in their groups to see how odd they are. |

**Virtual Manipulatives – Approximately 12 min.**

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| ***Crazy Pattern Machine***  [**http://funschool.kaboose.com/preschool/learn-abcs/games/game\_crazy\_pattern\_machine\_the.html**](http://funschool.kaboose.com/preschool/learn-abcs/games/game_crazy_pattern_machine_the.html)  This is a fun game of recognizing patterns using numbers, shapes, and/or letters for younger students. |
| ***Pattern & Sequences Games***  [**http://www.free-training-tutorial.com/sequences-games.html#findrule**](http://www.free-training-tutorial.com/sequences-games.html#findrule)  **Game – Find the Rule**  This is a short demonstration of pattern rules. It offers practice finding pattern rules.  **Game – Pattern Matcher**  This game shows a pattern at the top and the student matches the pattern to one in four displayed rows. |

**Activities from Textbook – Approximately 5 min. each/20 min. total**

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| Teaching Odd and Even Relationships | Activity 14.10 Broken Calculator: Can You Fix It?   * You may use actual calculators for this activity or just demonstrate the calculations on the board or ELMO. |
| Teaching Patterns – Matching | Activity 14.12 Pattern Match   * You will need several patterns. These can be on paper, displayed on the Smartboard, or on the ELMO. |
| Teaching Patterns – Pattern Rules | Activity 14.14 Predict How Many   * You may use pictures of patterns or use actual pattern blocks or other manipulatives * You will need a table with one row depicting the steps and another row to place the answers. This can either be on a paper handout, displayed on the Smartboard, or projected from the ELMO for the students to enter the pattern according to the rule. |
| Teaching Graphs – No Specific Data | Activity 14.15 Sketch A Graph   * The students will need pencil and paper. Students may find it easier to do this activity on graph paper. |

**Lesson Plan**

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| *Pattern Play*  <http://www.eduplace.com/rdg/gen_act/guests/pattern.html>  Reinforces students understanding of patterns as they create patterns of their own |